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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,730	03/30/2005	Coen Adrianus Verschuren	NL 020938	1976

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EXAMINER	
SHEN, KEZHEN	
ART UNIT	PAPER NUMBER
2627	
MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/529,730	VERSCHUREN ET AL.	
	Examiner	Art Unit	
	Kezhen Shen	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☒ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 1 is objected to because of the following informalities: The spelling of focussing is misspelled.

Claim 27 and 28 are objected to because of the following informalities: The a should be an for grammatical reasons.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-6, 8, 12-14, 16-21, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinoda et al. US 6,638,597 B1, and further in view of Hayashi US 6,791,917 B2.

Regarding claim 1, Shinoda et al. teach a MO-ROM medium with small track width, wherein data is recorded at least on one side of a disk (3 of Fig. 1); a data side has on a substrate at least a recording layer wherein said data is recorded (3 of Fig. 1, Col 8 Lines 33-40) and at least a read-out layer to reproduce said data recorded in said recording layer during read-out (Col 1 Lines 46-56 recording layer and mask layer); said recorded data is arranged within adjacent data tracks on said disk (Col 2 Lines 53-55); and a recording

density within a data track is beyond the diffraction limited density (2 N.A./λ) of the focusing optics (Col 12 Lines 35-43). Shinoda et al. fail to teach said data tracks are arranged in groups of several adjacent data tracks; reference means for tracking a selected data track group with said read-out laser beam are provided for each data track group.

Hayashi teaches data tracks arranged in a group (Fig. 3, Col 4 Lines 40-45) and a reference means for tracking the selected data track group (Ptrk of Fig. 3, Col 4 Lines 58-67). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of the MO-ROM as taught by Shinoda et al. with the arrangement of data tracks in a group and a reference means to track the group as taught by Hayashi as a whole to include track groups within the data tracks which are beyond the diffraction limit for the benefit of high density recording (Hayashi Col 4 Lines 45-49).

Regarding claim 2, Hayashi teaches a MO-ROM medium according to claim 1, wherein said disk contains at least one data track group having a spiral form running concentric with an increasing radius from center of said disk to the outer edge of the disk (Col 3 Lines 40-47).

Regarding claim 3, Hayashi teaches a MO-ROM medium according to claim 1, wherein said disk contains a plurality of data track groups being concentric circles with increasing radii from center of the disk to the outer edge of the disk (Col 3 Lines 40-47).

Regarding claim 4, Hayashi teaches a MO-ROM medium according to claim 1, wherein said reference means are provided by local reference means between adjacent data track groups (Fig. 3, Col 4 Lines 58-67).

Regarding claim 5, Hayashi teaches a MO-ROM medium according to claim 4, wherein said local reference means are lands and/or grooves within the substrate of said MO-ROM (Col 3 Lines 40-47 Ptrks are made up of pits).

Regarding claim 6, Hayashi teaches a MO-ROM medium according to claim 5, wherein said local reference means are provided by a transition between a land and a groove within said substrate of said disk and each land and each groove contain one of said data track groups (Col 3 Lines 40-47 the Ptrk is a pit followed by land).

Regarding claim 8, Hayashi teaches a MO-ROM medium according to claim 1, wherein each of said data track groups contains an odd number of data tracks (Col 4 Lines 37-44 the three adjacent tracks define a group).

Regarding claim 12, Hayashi teaches a MO-ROM medium according to claim 1, wherein time reference means are provided within each data track group (Psync of Fig 3, Col 3 Lines 41-47 Psync references the timing of the tracks).

Regarding claim 13, Hayashi teaches a MO-ROM medium according to claim 12, wherein said time reference means are embossed regions on said substrate within each of said data track groups (Col 3 Lines 41-47 the pit are embossed on the sync region).

Regarding claim 14, Hayashi teaches a MO-ROM medium according to claim 13, wherein said embossed regions intermit each of said data track group into data track group sections (Fig. 3, Col 3 Lines 41-47).

Regarding claim 16, Hayashit teaches a MO-ROM medium according to claim 12, wherein said disk has a flat substrate and said data track groups are equally spaced (Tp of Fig. 3, Col 4 Lines 27-28 the track pitch indicates equal spacing for each track).

Regarding claim 17, Shinoda et al. teach a MO-ROM medium according to claim 1, wherein for read-out a Super Resolution technique is used like MSR, MAMMOS or DWDD (Col 7 Lines 43-47).

Regarding claim 18, Shinoda et al. teach a MO-ROM medium according to claim 1, wherein said disk is produced by injection molding or by photopolymer replication (Col 10 Lines 14-18 injection molding).

Regarding claim 19, Shinoda et al. teach a MO-ROM medium according to claim 18, wherein the information pattern is defined in the injection molding master or the replication layer by a high-resolution lithography technique, like an electron-beam writer (Col 10 Lines 14-18 injection molding master).

Regarding claim 20, the limitations have been analyzed and rejected with respect to the rejection above in claim 1.

Regarding claim 21, the limitations have been analyzed and rejected with respect to the rejection above in claim 4.

Regarding claim 23, the limitations have been analyzed and rejected with respect to the rejection above in claim 13.

Regarding claim 25, the limitations have been analyzed and rejected with respect to the rejection above in claims 1 and 2.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shinoda et al. US 6,638,597 B1 and Hayashi US 6,791,917 B2. as applied to claim 6 above, and further in view of Izumi et al. 5,740,154.

Regarding claim 7, both Shinoda et al. and Hayashi fail to teach a MO-ROM medium according to claim 6, wherein a width of said lands and a width of said grooves are equal.

Izumi et al. teach the width of the land region to be equal to the width of the groove region (Col 7 Lines 35-45). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of the MO-ROM as taught by Shinoda et al. and Hayashi with the teaching of the equal land and groove widths as taught by Izumi et al. as a whole to set the width of the land and groove the same for the benefit of crosstalk suppression (Izumi et al. Col 7 Lines 43-45).

Claims 9-11 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinoda et al. US 6,638,597 B1 and Hayashi US 6,791,917 B2. as applied to claim 4 above, and further in view of Ozaki et al. 5,696,757.

Regarding claim 9, both Shinoda et al and Hayashi fail to teach a MO-ROM medium according to claim 4, wherein a specific data track of a data track group is selected for

read-out by an offset value added to a push-pull error signal generated with reference to a center data track of said data track group and said local reference means.

Ozaki et al. teach the use of the push-pull method to determine a specific track (Col 11 Lines 5-27). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of the MO-ROM as taught by Shinoda et al. and Hayashi with the teaching of the push-pull method as taught by Ozaki et al. as a whole to use the push pull method in the MO-ROM for the benefit of detecting the correct position and track on the disc (Ozaki et al. Col 11, Lines 10-17).

Regarding claim 10, both Shinoda et al. and Hayashi fail to teach a MO-ROM medium according to claim 9, wherein data is recorded only in said center track of each of said data track groups.

Ozaki et al. teach the data pits being read on or near to the virtual center track (TR of Fig. Figs 1A and 2A, Col 10 Lines 6-47). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of the MO-ROM as taught by Shinoda et al. and Hayashi with the teaching of data only on the center track as taught by Ozaki et al. as a whole to include data only on the center track of the MO-ROM for the benefit of preventing tracking error signals due to irregular pits (Ozaki et al. Col 11, Lines 5-17).

Regarding claim 11, both Shinoda et al. and Hayashi fail to teach a MO-ROM medium according to claim 10, wherein at least one of the other data tracks of at least one of said data track groups contains additional information, wherein said additional

information provides for e.g. copy limitation, conditional access or digital rights management.

Ozaki et al. teach the use of the use of the data track to provide additional information for copy protection (Col 12 Lines 24-64). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of the MO-ROM as taught by Shinoda et al. and Hayashi with the teaching of the copy protection as taught by Ozaki et al. as a whole to use the copy protection the MO-ROM for the benefit of preventing illegal copying of the disc (Ozaki et al. Col 12, Lines 60-64).

Regarding claim 22, the limitations have been analyzed and rejected with respect to the rejection above in claim 9.

Claims 15, 24 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinoda et al. US 6,638,597 B1 and Hayashi US 6,791,917 B2. as applied to claim 13 above, and further in view of Bakx et al. 6,137,755.

Regarding claim 15, both Shinoda et al. and Hayashi fail to teach a MO-ROM medium according to claim 13, wherein a specific data track of a data track group is selected by setting an offset value during read-out of an embossed region using the differential time detection (DTD) method, while tracking control is kept fixed between two embossed regions.

Bakx et al. teach the differential time detection method used for tracking (Col 3 Lines 45-55). Therefore, it would have been obvious to one of ordinary skill in the art to combine

the teaching of the MO-ROM as taught by Shinoda et al. and Hayashi with the teaching of the copy protection as taught by Bakx et al. as a whole to use the copy protection the MO-ROM for the benefit of preventing illegal copying of the disc (Ozaki et al. Col 12, Lines 60-64).

Regarding claim 24, the limitations have been analyzed and rejected with respect to the rejection above in claim 15.

Regarding claim 26, the limitations have been analyzed and rejected with respect to the rejection above in claims 1 and 15.

Regarding claim 27, the limitations have been analyzed and rejected with respect to the rejection above in claims 1 and 15.

Regarding claim 28, the limitations have been analyzed and rejected with respect to the rejection above in claims 1 and 15.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kezhen Shen whose telephone number is (571) 270-1815. The examiner can normally be reached on Monday-Friday 10am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TAN Xuan DINH/
Primary Examiner, Art Unit 2627
September 23, 2008

/Kezhen Shen/
Examiner, Art Unit 2627